State of California
The Resources Agency
Department of Water Resources

Initial Study and Negative Declaration for

PROPOSED INTERIM NORTH DELTA PROGRAM LAND PURCHASE

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NEGATIVE DECLARATION PROPOSED INTERIM NORTH DELTA PROGRAM LAND PURCHASE

The Project: The project consists of the purchase of a 122-acre parcel of land immediately south of the town of Hood and adjacent to the Sacramento River Figures 1 and 2. The property is identified as Sacramento County Assessor's Parcel Number 132-0120-092. The key objective of the project is to provide the State with future water resources planning flexibility, as authorized under Section 258 of the Water Resources Code.

The vicinity of Hood is one of several key locations that may be selected for future screened State Water Project diversions from the Sacramento River system or diversion tests and it is therefore prudent State policy to purchase such sites to preserve planning options for such possible future facilities.

Such possible diversions include a wide range of options, such as through-Delta systems, isolated conveyance facilities, or a combination of isolated and through-Delta transfer systems. There is also a potential for construction of smaller scale diversion facilities to provide practical information to guide the Delta solution-finding process.

The Finding: The project will have no significant impact on the environment.

Basis for the Finding: Based on the initial study, it was determined that there would not be any significant project impacts, nor would this project have any adverse environmental effects. Negotiations for the acquisition of the subject property is with willing sellers. The land is currently zoned for agriculture and is currently used for the production of wine grapes. Arrangements will be made to maintain current land use and production methods. Existing habitats will be unaffected by the acquisition of this land. No changes in land use will be implemented without appropriate environmental documentation, clearances and permits.

The purchase of this property will not commit DWR to any particular decision under the Delta planning process. Subsequent development actions relating to the Interim North Delta Program or the long-term Delta solution-finding process will be addressed under separate California Environmental Quality Act documentation.

Therefore, this Negative Declaration is filed pursuant to Section 15073 of the Guidelines for Implementation of CEQA.

E.F.

Edward F. Huntley, Chief
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Date 3/3/95

Figure 1. Map of the North Delta Study Area

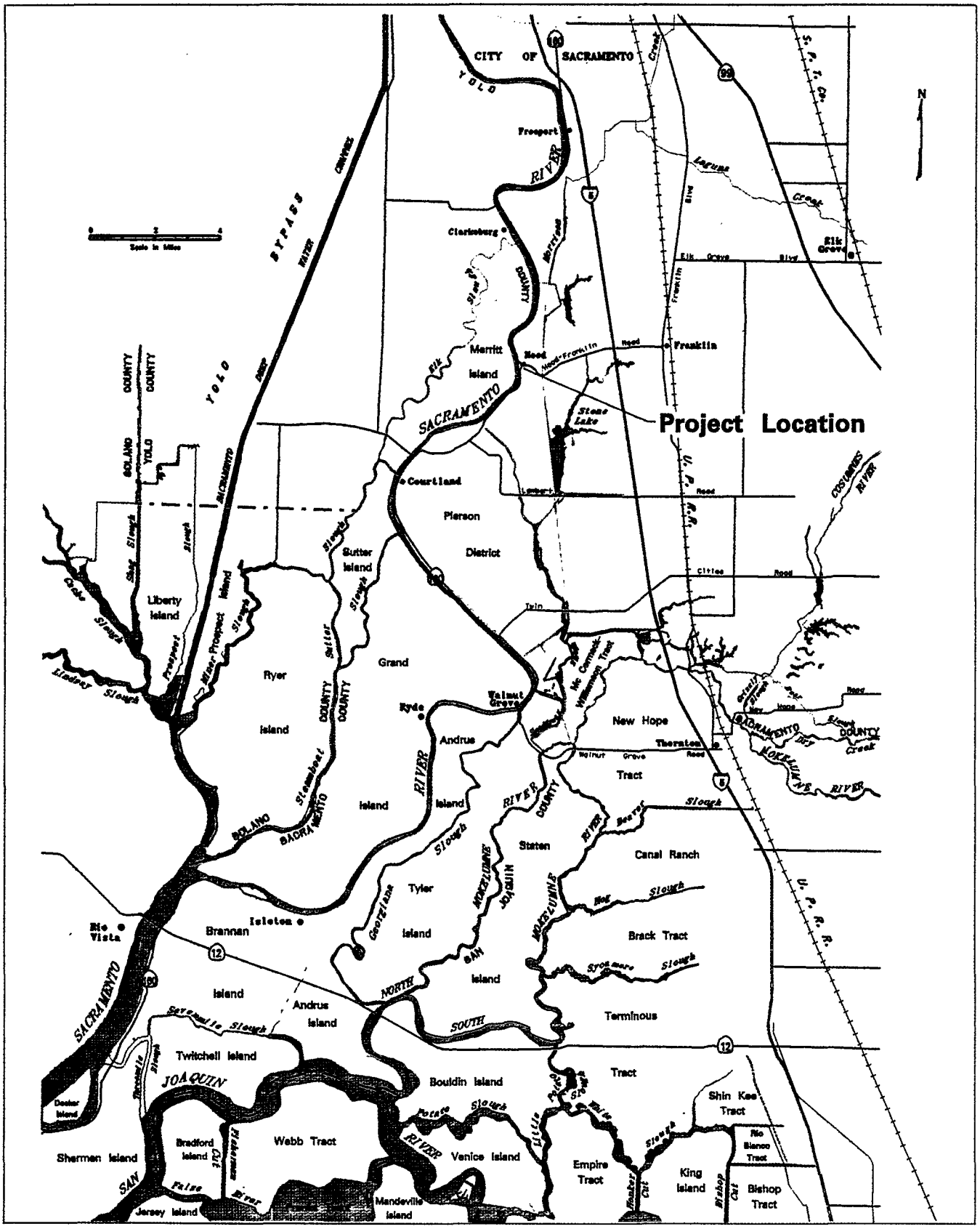

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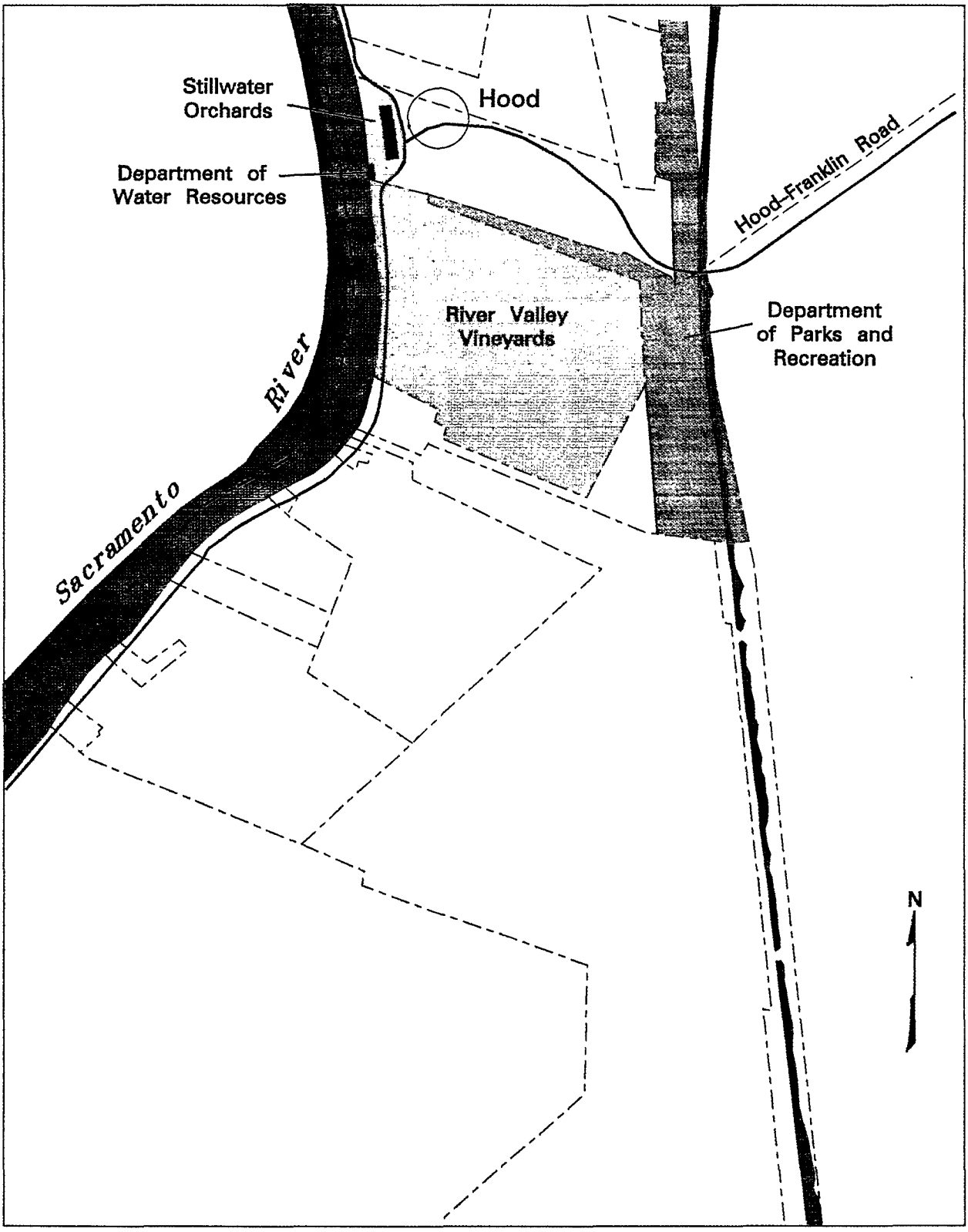
Figure 2. Project Vicinity Map



PROJECT OBJECTIVE

The key objective of the project is to provide the State with future water resources planning flexibility. The vicinity of Hood is one of several key locations that may be selected for future screened diversion from the Sacramento River system or diversion tests. The subject property has been on the market for about 1 year. The potential for subdivision and recreational, residential, or commercial development of properties in the Hood area poses a serious potential risk to future water resources facilities development that might be required along the Sacramento River. Residential subdivision has been proposed and submitted to the county on an agricultural property within a mile to the north. The vicinity of Hood offers unique advantages related to facilities for reducing fisheries impacts and improving water supply reliability. These include the diminished effects of Delta tides relative to the central and western Delta, mineral soils that provide adequate foundations, geographic location relative to State Water Project diversion facilities in the south Delta, and the relatively low level of development on existing lands.

Purchase of property in the Hood area would assure that existing land use continue. It is therefore prudent State policy to purchase such sites to preserve their availability for possible future facilities.

Potential future water diversions in the vicinity of Hood could ultimately include a wide range of options, including screened through-Delta water transfer systems, an isolated canal connected to Clifton Court Forebay, or a combination of through-Delta and isolated conveyance facilities. There is also a potential for construction of smaller scale diversion facilities to provide practical information to guide the Delta solution-finding process.

Additional objectives of the project are to (1) determine willing sellers and thus identify land parcels that will facilitate the planning and decision-making process; (2) identify for local landowners, counties, and interests those land parcels that the State has interest in and commitments to, so that these entities can make prudent planning decisions; and (3) determine whether additional land parcels are available that could later be used for water resources development and mitigation facilities.

PROJECT DESCRIPTION

The project consists of the purchase of a 122-acre parcel of land immediately south of the town of Hood and adjacent to the Sacramento River. The property is identified as Sacramento County Assessor's Parcel Number 132-0120-092. Such early purchase of land for potential future use for The State Water Resources Development System is authorized under Section 258 of the Water Resources Code:

> "The authority conferred by this code to acquire real property for state dam and water purposes includes authority to acquire for future needs. The department is authorized to lease any lands that are held for state dam and water purposes and are not presently needed therefor on such terms and conditions as the director may fix and to maintain and care for such property in order to secure rent therefrom."

Under Section 15378 of the State CEQA Guidelines,

> "Project means the whole of an action, which has a potential for resulting in a physical change in the environment, directly or ultimately."

The acquisition of land in the vicinity of Hood constitutes a distinct project because the Department of Water Resources would approve the commitment of State Water Project funds for fee-simple purchase of such property. Such an action would not commit the State to any particular course of action in its efforts to resolve Delta management issues; rather it would protect future flexibility to consider a wide range of alternatives. The cost of land acquisition would be small relative to potential future water diversion facilities development. This purchase is not an irretrievable commitment of resources. The action would be reversible; DWR is authorized to lease or sell surplus property when appropriate and envisions no difficulty in selling this property should it not ultimately be needed for fish screening and water diversion facilities.

Negotiations for the acquisition of the subject property will be with willing sellers only. The land is currently zoned for agriculture and is used to grow wine grapes. Arrangements will be made to maintain current land use and production methods. Existing habitats will be unaffected by the acquisition of this land. No changes in land use will be implemented without appropriate environmental documentation, clearances, and permits.

Subsequent development actions relating to the Interim North Delta Program or the long-term Delta solution finding process will be addressed under separate California Environmental Quality Act documentation.

Related Projects

Interim and long-term solutions to Delta concerns are being evaluated through several related programs and actions. As these processes mature and specific action options are developed, detailed environmental and engineering analyses will be undertaken and made available for public and agency review.

The land to be acquired is under consideration as one of several potential sites for development of screened diversions from the Sacramento River system. Such facilities could have potential utility in reducing impacts on fishery resources (particularly salmonids) and improving State Water Project operational flexibility and reliability.

A water diversion from the Sacramento River near Hood could serve as a demonstration project to advance practical knowledge needed to resolve technical and permit issues specific to the Delta. Such a demonstration project is consistent with the Central Valley Project Improvement Act, Section 3406 (b)(14). It could also serve as a potential diversion point for a wide range of solution options, such as a screened through-Delta diversion, an isolated transfer system, or a combination of through-Delta and isolated water transfer systems.

Other diversion sites under consideration as part of the State-federal solution finding process include the Sacramento River near Verona, near the Port of Sacramento, near Walnut Grove, and near Isleton.

State Water Policy and Bay-Delta Interim Standards

On April 6, 1992, the Governor outlined his Comprehensive Water Policy. Key elements of this policy include "fixing the Delta in both the near- and long-term." Solutions must address "fish and wildlife needs, efficiency and reliability of water export systems, water quality and various water uses, and physical integrity of Delta channels and levees." Governor Wilson also emphasized that, "Any recommended long-term solution must be scientifically sound and guarantee protection for the Bay-Delta estuary."

The first milestone in the development of the Governor's Comprehensive Water Policy was the establishment of the Bay-Delta Oversight Council, which held its first meeting in February 1993. The council has conducted periodic meetings in which Delta issues and the long-term solution-finding processing has been discussed. BDOC ceased holding meetings in December 1994.

Another significant milestone was the signing of a June 1994 framework agreement, which committed most of the key State and federal agencies with interests and regulatory jurisdiction in the Delta to a cooperative and coordinated solution process. In accordance with this agreement, a new Bay-Delta Advisory Council is expected to pick up where BDOC left off, with direct participation by federal agencies.

On December 15, 1994, a key element of the framework agreement was implemented when the State Water Resources Control Board issued draft water quality standards for the Bay-Delta Estuary. It is anticipated that when these standards are finalized, the EPA will withdraw the federal standards. The agreement of key State, federal, and local agencies is expected to provide a stable planning environment for the next 3 years.

A key provision of the agreement is that protection under the Endangered Species Act is provided concurrently without imposing additional burdens on water supplies. The federal government would purchase any additional water required under the ESA.

In addition to setting standards for flow and water quality in the Delta, the historic agreement reached on December 15, 1994 also called for implementation of non-outflow related restoration measures. Screening of Sacramento and San Joaquin river diversions is the top priority among these proposed measures.

Other Land Acquisition Actions

DWR is also evaluating the potential for purchase of other land parcels in the vicinity of Hood that may have appropriate characteristics.

Interim North Delta Program

The INDP represents parallel planning and environmental documentation to improve conditions in the northern portion of the Delta. The primary study area includes channel systems south of Sacramento, north of the San Joaquin River, east of Rio Vista, and west of Thornton. However, direct and indirect biological impacts will be analyzed from Oroville Dam downstream to the Delta and San Francisco Bay.

The INDP is exploring possible interim actions to reduce Delta fisheries impacts, improve State Water Project reliability, and reduce flood impacts. Various combinations of fish protective actions under consideration include diversions in the vicinity of Hood ranging from 200 cubic feet per second to 2,000 cubic feet per second; acoustic fish guidance systems at the Delta Cross Channel, Sutter Slough, Steamboat Slough, and Georgiana Slough; cooperation with the U.S. Army Corps of Engineers to facilitate the migration of salmonids trapped in the Sacramento River Deep Water Ship Channel; and creation of riparian habitats. The land purchase proposed and evaluated in this initial study could provide a location for implementation of the 200 to 2,000 cfs diversions at Hood under the INDP or other solutions agreed upon in the long-term State/federal solution-finding process.

The North Delta Program EIR/EIS was released for pubic review in November 1990. Subsequently, the program was downsized and reoriented to be compatible with the long-term State/federal solution-finding process. Accordingly, it was renamed the Interim North Delta Program. A draft environmental impact report/environmental impact statement for the INDP is scheduled for public release late in 1995.

Interim South Delta Program

The ISDP represents parallel planning and environmental impact documentation to improve conditions in the southern portion of the Delta. The program includes a public review of problems, alternative solutions, impacts, and mitigation to provide information for selecting corrective action. This process will illustrate the many interests and concerns related to water resources planning in the south Delta. The program also includes investigation of the cumulative effects of any corrective action when combined with other facilities statewide and in the Delta.

DWR and U.S. Bureau of Reclamation are preparing a joint environmental impact document for the ISDP. The action was initiated under the framework agreement (October 1986) among DWR, USBR, and the South Delta

Water Agency that committed all three parties to work together to develop mutually acceptable, long-term solutions to the water quality and water supply problems of water users within SDWA. The principal objectives of the ISDP are to improve water circulation and water levels for local agriculture and to increase the operational flexibility of the State Water Project to reduce impacts and increase reliability.

Evaluation of multipurpose alternatives to meet these objectives also takes into account fishery conditions, navigation, flood protection, recreational opportunities and wildlife habitat.

The Interim South Delta Program Draft Environmental Impact Report/Environmental Impact Statement is scheduled for release mid-1995.

South Delta Agreements

In June 1986, DWR and SDWA signed a Joint Powers Agreement regarding interim measures to improve water level and circulation problems resulting from various factors, including the construction and operation of the SWP. The agreement included a plan for dredging the upper 5 miles of Tom Paine Slough, installing siphons in Tom Paine Slough, developing Clifton Court Forebay operational criteria, and constructing a weir in Middle River. Dredging Tom Paine Slough was completed in October 1986 and the siphons were completed in March 1989. The Middle River weir was installed in May 1987 and the center portion was removed at the end of September 1987. The removable weir portion is reinstalled each irrigation season.

In October 1986, a framework agreement for settling SDWA litigation was signed by DWR, USBR, and SDWA. The agreement included (1) negotiations for a long-term plan of physical or operational solutions, (2) provisions for cost-sharing and responsibilities for the implementation of the long-range plan, (3) interim actions, namely New Melones releases, to help improve the south Delta water supply, and (4) action to cancel the April 1987 trial date. The trial date was vacated and legal action was stayed. The negotiations spelled out in the framework agreement were recently completed and are being coordinated with the ISDP environmental impact document work.

Delta Protection Commission

The Sacramento-San Joaquin Delta Protection Act of 1992 established the Delta Protection Commission. The DPC is charged with the task of developing and adopting a comprehensive long-term resource management plan that will preserve the core of the Delta for agriculture, wildlife, and recreation. The DPC Land Use and Resource Management Plan for the Primary Zone of the Delta is expected to be finalized some time in 1995.

Central Valley Project Improvement Act

The Central Valley Project Improvement Act was enacted by Congress to protect, restore, and enhance fish, wildlife and associated habitats in the Central Valley Project areas, including the Sacramento-San Joaquin Delta. The act intended to achieve a balance among competing demands for use of the Central Valley Project water, including the requirements of fish and wildlife, agriculture, municipal and industrial water users, and power contractors.

Section 3406(b)(4) of the Act directs the U.S. Bureau of Reclamation to:

> "develop and implement a program which provides for modified operations and new or improved control structures at the Delta Cross Channel and Georgiana Slough during times when significant numbers of striped bass eggs, larvae, and juveniles approach the Sacramento River intake to the Delta Cross Channel or Georgiana Slough. Costs associated with implementation of this paragraph shall be reimbursed in accordance with the following formula: 37.5 percent shall be reimbursed as main project features, 37.5 shall be considered a nonreimbursable Federal expenditure, and 25 percent shall be paid by the State of California."

San Francisco Bay Estuary Comprehensive Conservation and Management Plan

Section 320 of the Clean Water Act established the National Estuary Program in 1987. Under this authorization, the Environmental Protection Agency sponsored a multi-agency effort to document the status and trends of

resources within the San Francisco Bay Estuary, including the Sacramento-San Joaquin Delta region. The culmination of this collaborative effort was the development of the San Francisco Estuary Project Comprehensive Conservation and Management Plan for the estuary. The CCMP (SFEP 1994) presents a blueprint to restore and maintain the chemical, physical, and biological integrity of the Bay and Delta. It seeks to achieve high standards of water quality; to maintain an appropriate indigenous population of fish, shellfish, and wildlife; to support recreational activities; and to protect the beneficial uses of the Estuary.

ENVIRONMENTAL SETTING

Location and Land Use

The project area is in the northeastern part of the Sacramento-San Joaquin Delta in California's Central Valley (***Figure 1***). The subject property consists of a 122-acre parcel of land immediately south of the town of Hood on the left bank of the Sacramento River (***Figure 2***). The property is identified as Sacramento County Assessor Parcel Number 132-0120-092. The town of Hood is about 15 miles south of downtown Sacramento and about 2 miles west of I-5 via Hood Franklin Road. Highway 160 follows the Sacramento River from Sacramento to Antioch, passing through the town of Hood. It generally follows the levee crown adjacent to the river.

The unincorporated town of Hood has a population of about 230 and includes the Stillwater Orchards cold storage facility, two restaurants, and a small community park.

The Sacramento River is contained by federal project levees, which protect the surrounding lands from flooding. The Southern Pacific Railroad embankment, which runs north-south about 3,000 feet east of the Sacramento River at Hood, separates the Hood area from the Stone Lakes basin to the east. This basin receives drainage from the 180-square-mile Morrison Creek basin, as well as overflow from the Mokelumne and Cosumnes rivers during major flood events.

The subject land parcel is currently devoted to wine grape production. Surrounding land use is predominantly agricultural. The region features generally excellent soils and water availability, and is capable of producing high yields of wine grapes, pears, alfalfa, sugar beets, tomatoes, peppers, grains, and oil seed crops.

Climate

The climate of the Hood area and the Delta region is Mediterranean, with warm, dry summers and cool, moist winters. The annual average temperature is about 60 degrees Fahrenheit, with extremes ranging from 100 degrees Fahrenheit in summer (June-September) to 30 degrees Fahrenheit in winter (December-March). Average summer and winter temperatures are 75° Fahrenheit and 45° Fahrenheit, respectively.

In spring and summer, winds from the Pacific Ocean enter the Delta through the Carquinez Strait, at times reaching 50 miles per hour. This inflow of marine air moderates what would otherwise be a hot, dry climate. During winter, land breezes prevail, and temperatures vary from 43° F to 82° F. During late fall and winter, a dense ground fog periodically covers the Delta for several days at a time.

Average annual precipitation in the north Delta is about 18 inches. Rainfall during fall and winter accounts for most of this precipitation, with little occurring during summer. The local rainfall is supplemented by irrigation water readily available from the surrounding waterways. The growing season is long. The area has an over 320 frost-free days per year; farmers often plant and harvest two crops during this time.

Navigation and Transportation

The Sacramento River and other Delta waterways provide important transportation corridors. Commercial transport, levee maintenance activities, law enforcement, fire suppression, and recreation are among the activi-

ties affected by the navigability of Delta channels. The Sacramento River, Georgiana Slough, and connecting channels are all important transportation corridors, with use varying seasonally and in accordance with need. The Stillwater Orchards cold storage plant, immediately northwest of the subject property historically served as a transshipment point for locally produced fruits and vegetables. Hood provided a connecting point for barge traffic, railway traffic, and overland road traffic. Produce has not been shipped from the Hood area for several decades and southern Pacific Railroad ceased service to the Stillwater Orchards site before 1965.

Recreation

The Delta's bountiful natural resources and close proximity to highly populated areas are among the reasons for its use as a major recreation area. Major population centers of the San Francisco Bay area, Suisun Bay area, Sacramento, and Stockton border the Delta. Its abundant water, fish, wildlife, cultural, and historical resources offer a variety of recreational opportunities such as boating, fishing, hunting, sightseeing, camping, picnicking, jet skiing, and relaxing. The Delta's 50,000 surface acres of water is one of the largest bodies of protected cruising water in the western United States. In addition to the more than 700 miles of waterways and 60 leveed islands and tracts, the Delta retains approximately 800 unleveed islands, many of which feature wetlands, riparian forest, and unique historic features.

The community of Hood includes two restaurants and a small community park. Hood is readily accessible via Highway 160 and Hood Franklin Road. The National Wildlife Service Stone Lakes National Wildlife Refuge is located in the Stone Lakes basin, immediately east of Hood.

Soils and Geology

Mineral soils, derived from weathered rock and deposited on the lower slopes of the surrounding valley plains, predominate on the periphery of the Delta, including the Hood area.

Sediment deposition in the Delta occurs as three major rivers (Sacramento, San Joaquin, and Mokelumne) converge at sea level and either drop sediment loads in Delta channels or overflow levee banks onto Delta islands.

The subject property in the vicinity of Hood lies generally between sea level and 5 feet above. The Sacramento River Flood Control Project levee on the western portion of the property and the abandoned Southern Pacific railroad embankment to the north and east provide the most pronounced topographic features in the vicinity.

The geologic deposits in the vicinity of Hood are generally comprised of weak Holocene tidal and alluvial deposits, and underlying dense Pleistocene deposits.

Soils in the vicinity of Hood are prime, supporting production of pears, wine grapes, and row crops. Soils on the subject property are within the Egbert Valpac and Dierssen Units (U.S.D.A. Soil Conservation Service, 1991. The two major soil types on the subject property are Valpac Loam and Scribner Clay Loam. A small portion of the property contains Tinnin Loamy Sand. These soils are productive, moderately deep, somewhat poorly drained, and flood protected soils.

Water Quality

Over 100 years ago, Californians proceeded to transform marsh and swamp land into one of the most productive agricultural communities in California. However, its importance in present day society goes beyond farming. Approximately 55 percent of the State water flows in channels tributary to the Sacramento-San Joaquin Delta. Over 90 percent of the State population relies to some extent on its water for agricultural, municipal, and industrial use.

The two largest diversion projects are the Central Valley Project and the State Water Project. Combined, they lift nearly 7 million acre-feet of water to meet part of the needs of two-thirds of the State population and irrigate

4.5 million acres of agricultural land. In addition, over 1,800 local diverters take water from Delta channels for in-Delta agricultural use.

The Bay-Delta estuary water quality and tidal hydraulics are complex. When Delta outflows meet the higher salinities of the bay and ocean, salinity gradients result from the mixing of fresh water and ocean water. The magnitude and extent of these gradients depend primarily on the magnitude of Delta outflows and ocean tides. As outflows increase, the mixing zone tends to shift seaward, increasing the salinity stratification and compressing the mixing zone.

Other factors affecting the estuary water quality and hydraulics include channel geometry, wind, barometric pressure, local and project diversions, agricultural drainage, pollutant discharges, and ambient temperature.

Water conditions in the north Delta are primarily influenced by inflows from the Sacramento River, the Mokelumne River, Dry Creek, and the Cosumnes River.

Water quality in the vicinity of Hood is primarily a function of Sacramento River flows. Water quality is consistently high, with total dissolved solids comprising generally less than 100 parts per million. Impacts of urban stormwater drainage, as well as residues from agricultural spraying operations in the Sacramento Valley, have come under increasing scrutiny as potential causes of aquatic degradation in the Delta.

In the past 30 years, the State Water Resources Control Board has been involved in issuing water rights permits and defining water quality and flow standards for the Delta. In developing the standards, SWRCB considered various beneficial uses of Delta waters. Municipal and industrial standards are based on health factors; agricultural standards are based on the salt sensitivity of crops; and fish and wildlife standards are based on salinity and flow criteria designed to improve conditions for resident and migratory fish. These standards are discussed in detail in the previous decision D-1485. On December 15, 1994, SWRCB issued new draft water quality standards, consistent with a negotiated settlement involving major State, federal, and local Delta stakeholders.

Flood Hydrology

The vicinity of Hood is protected from excessive Sacramento River flows by the Sacramento River Flood Control Project. This project is a complex system of reinforced levees, overflow weirs, bypass channels, and channel enlargements extending from Shasta Dam in the north to southeast of Rio Vista in the Sacramento-San Joaquin Delta. This system is an extension of the integrated flood control plan designed by State engineer William Hammond Hall in 1880. In 1911, the Reclamation Board was created to see that this plan was carried out. Federal authority for the Sacramento River Flood Control Project came as a result of the 1917 Flood Control Act by the U.S. congress. It took until 1960 to complete the project with the help of local, state and federal funding.

From the I Street Bridge in Sacramento, the Sacramento River enters the northern region of the Sacramento-San Joaquin Delta. The 100-year flood elevation for the Sacramento River in the vicinity of Hood is 19 feet above mean sea level.

In addition to the Sacramento River basin, the north Delta region drains flood waters from more than 2,000 square miles of watershed east of the Delta through the lower Mokelumne River system and eventually into the San Joaquin River. The Morrison Creek Stream Group, the Cosumnes River Basin, the Dry Creek Basin, and the Mokelumne River Basin are not part of the Sacramento River Flood Control Project. Except for Camanche Reservoir on the Mokelumne River, these basins lack significant flood control storage facilities and other flood water regulation systems.

The constricted channels of the Mokelumne River system, with generally inadequate levees, provide the only pathway for draining the flood waters of these basins. The Delta Cross Channel, north of Walnut Grove, is closed during high-flow conditions to prevent Sacramento River flood water from contributing to the flood problems in the Mokelumne River system. The Delta Cross Channel flood-control operation criterion requires that both gates be closed at discharges above 25,000 cfs in Sacramento River, as measured at the Freeport Gauge.

The subject property is protected from flooding by levees on all sides. As noted above, the project levee on the western portion of the property holds back flood waters of the Sacramento River. The Southern Pacific Railroad embankment on the east side of the property provides some protection against flooding in the Stone Lakes basin. On the north, the Southern Pacific Railroad spur embankment separates the subject property from the town of Hood. The Pierson District (Reclamation District 551) levees and Reclamation District 813 levees to the south provide protection from flooding from that direction.

The levees do not provide 100-year flood protection, however. The subject property is within the Federal Emergency Management Agency's National Flood Insurance Program 100-year flood plain, with a base flood elevation of 15 feet, NGVD.

Vegetation And Wetlands

The vegetation in the vicinity of Hood reflects the generally agrarian and riparian character of the north Delta study area. It is a mix of intensively managed agricultural lands, riparian vegetation, wetlands, grasslands, and residential ornamentals. Riparian vegetation and wetlands occur along the Sacramento River, Stone Lakes and connecting channels, flood drainage ditches, and uncultivated areas. Uplands include levee embankments and uncultivated areas at higher elevations.

The subject property and immediate surroundings were field checked for the occurrence of wetlands and sensitive plant species.

No sensitive plants, vernal pools, or wetlands were detected on the bulk of the subject property, which is occupied by an intensively managed vineyard, irrigation and drainage facilities, farm buildings, a residence, and roads. However, portions of the perimeter of the property and portions of adjoining properties include wetlands and high-quality wildlife habitat and may support sensitive plant and animal species.

The riprapped levee embankment adjoining the Sacramento River, which defines the western boundary of the subject property, has some valuable riparian habitat, including willows, oaks, and cottonwoods.

The southern boundary of the property is occupied by nonnative eucalyptus and fruit trees, which provide low-quality habitat.

A drainage ditch follows the eastern boundary of the property. Although classified as artificial wetland, it provides good-quality wildlife habitat. There is wetland vegetation at the northern edge of the ditch and native riparian south of the wetland.

The northern boundary and adjoining State lands have excellent wildlife habitat in the form of mature native riparian woodland and a large wetland area.

Sensitive plant species potentially occurring in the area are shown in Table 1.

Table 1. Rare, Threatened, and Endangered Species Potentially Occurring in the North Delta Project Area				
Common Name	**Scientific Name**	**Status***	**Distribution**	**Habitat**
Plants				
Suisun Marsh aster	*Aster chilensis* var. *lentus*	C2	San Pablo Bay, Suisun Marsh, Delta	Dense vegetation, stabilized substrate
Sanford's arrowhead	*Sagittaria sanfordii*	C2	Butte, Fresno, Sacramento, and Del Norte counties	Tule islands
Mason's lilaeopsis	*Lilaeopsis masonii*	C2, SR	Delta	Mudbanks
California hibiscus	*Hibiscus californicus*	C2	Delta and Central Valley up to Butte County	Freshwater marsh
Delta tule pea	*Lathyrus jepsonii* ssp. *jepsonii*	C2	Delta	Freshwater marsh
Animals				
Aleutian Canada goose	*Branta canadensis leucopareia*	FT	Western Delta, Modesto	Fresh and salt water marshes and waterways
Greater sandhill crane	*Grus canadensis tabida*	ST	Central Valley	Fresh water marsh, riparian areas, corn fields, near trees for nesting
California black rail	*Laterallus jamaicensis coturniculus*	C2, ST	Coast from Marin County to north Mexico; inland marshes	Fresh and salt water marshes
Tricolored blackbird	*Agelaius tricolor*	C2	Central Valley and Sierra Nevada foothills	Marshes, flooded lands, margins of ponds, grassy fields
Swainson's hawk	*Buteo swainsoni*	ST, C2	Lower Sacramento and San Joaquin valleys; Klamath Basin; Siskiyou County. Winters in South America	Grasslands, irrigated pastures, and open fields near trees for nesting
Giant garter snake	*Thamnophis couchi gigas*	C2, ST	Fresno County north through the Central Valley; east Delta	Freshwater marsh, riparian areas, rice fields, canals
Western pond turtle	*Clemmys marmorata*	C2	Throughout California west of Cascade-Sierra crest	Ponds and waterways lined with emergent vegetation
California tiger salamander	*Ambystoma tigrinum californiense*	C2	Sonoma to Santa Barbara counties	Reservoirs, ponds, pools, lakes, and slow-flowing streams in grasslands and open woodlands
California red-legged frog	*Rana aurora draytoni*	C2	Coast, Transverse, Cascade, and Sierra Nevada ranges	Quiet, permanent water in woods, forest clearings, riparian areas, grasslands
Valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	FT	Lower Sacramento Valley north to Red Bluff	Elderberry bushes in riparian areas
Delta smelt	*Hypomesus transpacificus*	ST, FT	Suisun and San Pablo Bays in early fall; spawns in channels and dead-end sloughs, Dec through April	Salinities usually less than 2 parts per thousand
Sacramento splittail	*Pogonichthys macrolepidotus*	(C2)	Suisun Bay from Feb-April; spawns in upstream dead end sloughs Jan-July	Slower currents; tolerates brackish water

Table 1 (continued). Rare, Threatened, and Endangered Species Potentially Occurring in the North Delta Project Area				
Common Name	**Scientific Name**	**Status***	**Distribution**	**Habitat**
Animals (continued)				
Sacramento perch	*Archoplites interruptus*	FPT	Sacramento-San Joaquin Delta; Russian River; Scattered lakes and reservoirs	Needs beds of rooted and emergent aquatic vegetation; tolerates alkaline water
Chinook salmon (winter-run)	*Oncorhynchus tshawytscha*	FE, SE	Sacramento River system	Cool fresh water with access to ocean

*Status: FT = federal threatened; FE = federal endangered; FPT = federal proposed threatened; C1 = federal candidate with sufficient data to support federal listing; C2 =federal candidate currently without sufficient data to support federal listing; ST = State threatened; SE = State endangered; SR = State rare; SC = State candidate for protected status; (C2) = Currently being recommended by the Sacramento Endangered Species Office that the species be proposed as a C2.

A preliminary wetlands determination for the subject property was made by the Soil Conservation Service (1995). The bulk of the property was identified as prior converted cropland, because the soils on the property are all hydric soils and the property was converted to cropland use prior to 1985. The drainage ditch on the eastern edge of the property was classified as an artificial wetland.

Wildlife

Much of the land near Hood has been devoted to agricultural use since the late 1800s. Predominant uses have been orchards and vineyards, row crops, and grazing. Habitat values of croplands depends a great deal upon the types of crops grown and specific management practices of individual farmers. Vegetation along water courses includes a variety of riparian and wetland plants, which provide a rich and diverse habitat for wildlife. With the establishment of the U.S. Fish and Wildlife Service Stone Lakes Wildlife Refuge in 1992, approximately 16,000 acres in the Stone Lakes basin were earmarked for wildlife habitat enhancement.

The subject property, just south of the town of Hood, is devoted to wine grape production and exhibits very low wildlife habitat value, although as discussed under the previous section, riparian and wetlands resources are found on the perimeter of the property.

Sensitive wildlife species potentially occurring in the project area are listed in Table 1.

Swainson's hawk, *Buteo swainsoni*, is a State-listed threatened species known to nest in the Delta. There are some large trees on the property boundaries that have the potential to be Swainson's hawk nest sites. However, the closest nest sites known to the Department of Fish and Game are near Steamboat Slough over 4 miles away.

Cultural Resources

Federal and State laws mandate consideration of archaeological and historical resources in the planning process for public projects. The National Historic Preservation Act of 1966 directs federal agencies to assume responsibility for consideration of cultural resources. Section 106 requires the federal agency to consult with the State Historic Preservation Officer and the Federal Advisory Council on Historic Preservation (36 CFR 800). The California Environmental Quality Act of 1970 and the guidelines for its implementation provide for consideration of cultural resources in the planning process. In essence, these regulations require the sponsoring agency to identify any adverse effects on cultural resources resulting from their project and propose means to reduce or eliminate these adverse effects.

The present setting is in marked contrast to that which existed prior to 1850 when large scale reclamation and dredging began to affect the vast network of tule marshes, rivers, and sloughs in the Delta. Levees, rip-rap construction, drains, pump stations, dredging, and channel modification have produced the current network

of islands and channels in the area. Most of the existing land, however, is at or near sea level, revealing its ancient heritage as a wetland marsh interspersed with dry plains.

Aboriginal vegetation in the Sacramento-San Joaquin Delta has been reconstructed from early accounts and pollen records (West 1977). Throughout most of the area, plant life consisted of an extensive fresh water tule marsh that was constantly or seasonally flooded. Over this vast wetland, elevations rarely exceeded 25 feet above sea level. The dominant vegetation was composed of tule, cattails, sedges, and willows. Along the rivers stood a vast riparian forest where natural levees supported dense stands of oak, cottonwood, willow, buckeye, ash, and sycamore (Soule 1976:6). The dry plains, inundated only rarely, were dotted with solitary valley oaks. An extensive discussion of the environmental background can be found in West (1991).

At the project site today, introduced vegetation species dominate although native plants can also be seen. This vegetative cover is described in the Vegetation and Wetlands section of this report.

The project area has been altered by levee and road construction. The most prominent features being the Sacramento River levee with Highway 160 on its crown, and the town of Hood, immediately north of the subject property. The riverbank has been armored by rip-rap rock from 6 to 18 inches. This rock protection often extends to the levee crest although, in most cases, it is heavily overgrown by low vegetation.

Prehistoric Background

The Delta area of Central California has attracted archaeological interest for almost 100 years. Although some early antiquarians amassed vast artifact collections by digging into the mounds that were the homes of aboriginal peoples, not until the 1930s was the first systematic program of excavations in Central California carried out by students at Sacramento Junior College and U.C. Berkeley. From this work, a cultural sequence for the California culture area was developed and refined based on stratigraphic location of distinctive artifact types of a time-sensitive nature. This sequence, introduced by Lillard, Heizer, and Fenenga in 1939, is still in use today, and while modified somewhat from its original formulation, has proven extremely useful in the chronological assignment of prehistoric sites for California and adjacent regions.

Three general time periods or horizons are recognized. The Early Horizon or Windmiller Period (dated approximately 2500-500 B.C.) is known from a variety of sites in the Sacramento region. It is characterized by distinctive shell ornaments and charmstones, large projectile points with concave bases and stemmed points, baked clay balls used for cooking, fishing implements, and grinding tools (Moratto 1984). Some researchers have suggested an even earlier occupation for the Delta region, but argued that evidence is buried beneath river alluvium or peat deposits (Waugh 1986 in Maniery 1989). The subsistence base of these villages is not entirely understood. Some evidence suggests that acorn processing was not significant during this time (West 1991:10).

Early Horizon Period burials are distinctive. They are almost always extended, face down, containing red ocher, and oriented in a westward direction (Schulz 1970). These burials have typically been located in the lower levels of indurated sand mounds and have been found by accidental exposure through agricultural activities. Little or no surface evidence is usually present at them (Maniery 1989:17).

The Middle Horizon Period in the Delta spans the time range from approximately 500 B.C to A.D. 300. Sites assigned to this era often overlie earlier deposits. They frequently contain substantial midden accumulation with shell, mammal and fish bone, charcoal, grinding implements, and distinctive obsidian blades. Greater complexity in social organization and trade networks is suggested in the variety and form of artifact assemblages. Disposal of the dead took the form of flexed as opposed to extended burial. During this period a great deal of regional variation can be documented throughout California.

The time period from A.D. 300 to the arrival of Europeans has been called the Late Horizon. It is marked by large village sites, dark greasy middens, and occasional housepits. Subsistence was dominated by acorn and

pine nut processing. A major technological innovation was the introduction of the bow and arrow (as demonstrated by small arrow points) whereas the atlatl had served as the primary hunting implement for many centuries. Deeply serrated obsidian points and curved blades are distinctive objects recovered from Late Horizon Delta deposits. Called *Stockton curves,* they are thought to have been manufactured for ceremonial use—perhaps as bear claw depictions. Chisel-pointed pestles and an elaborate baked clay industry are also distinctive Late Horizon elements. Bone artifacts, including elaborate bird bone tubes and whistles give a glimpse of artistic expression. Basketry awls along with abalone ornaments are frequently found in these sites.

Cremation as a form of burial disposal became common in the Late Horizon. While found rarely during previous eras, it dominates mortuary custom in the Late Horizon period. The appearance of clam shell disk beads is an important chronological trait. It has been argued that Phase II, beginning about A.D. 1400, is defined by this artifact form and the exchange networks that extended throughout Central California to adjacent regions.

Ethnographic Background

The vicinity of Hood was occupied by the Junizumne tribelet of the Plains Miwok at the time of Euro-American contact. The Plains Miwok made their home over a vast area of the lower Sacramento Valley including sections of the Sacramento and San Joaquin Delta.

Incomplete documentation of Plains Miwok life occurred prior to the devastating impact of Spanish missionization, epidemic disease, and displacement from American populations. Even so, anthropologists have reconstructed a view of their society from aged informants, cultural traditions, and archaeological evidence. The following summary is derived extensively from that prepared by Soule (1976) for Sac-329.

Plains Miwok groups were organized into tribelet centers usually dominated by a central village with a number of satellites. Their population density was perhaps the highest in Central California. Baumhoff calculated it to be 11 persons per square mile (1963:220), but since virtually all their activities were concentrated within one-half mile of rivers and streams, the effective density was more like 57 persons per square mile. This compares favorably with that of agricultural peoples in North America, attesting to the productivity of the Delta regions in Central California and to the efficiency of Plains Miwok culture.

Villages were situated along watercourses on natural points of higher ground. Structures consisted of conical houses made of tules or grass thatch. Semi-subterranean lodges were also constructed, as were storage buildings and ceremonial roundhouses. Menstrual huts were a common feature in each village. Larger Miwok centers had populations resident year-round. As many as 500 to 1,500 people might occupy a single tribelet center.

Subsistence activities centered around collecting plant foods, hunting, and fishing. Acorns were a significant dietary element and could be stored for year-round use. These were supplemented with nuts (walnut and buckeyes), bulbs, seeds, berries, and greens. Hunting and fishing were of secondary importance. Tule elk, mule deer, pronghorn antelope, rabbits, ground squirrels, and pocket gophers were commonly hunted. Indications from faunal remains document the collection of frogs, turtles, salamanders, and waterfowl for food use. Important Delta fishes were salmon, sturgeon, chub, steelhead trout, sucker, squawfish, and splittail. Although anadromous fish runs so greatly impressed Europeans that other native fishes are rarely mentioned in historic accounts, faunal studies of archaeological deposits point to a greater prehistoric reliance on the latter than the former (Schulz and Simons 1973:110-112).

Utilitarian artifacts commonly recovered from Plains Miwok sites include baked clay net weights and cooking balls (since natural stone was a rare occurrence in the Delta), bone awls, bi-pointed fish hooks, antler flaking tools, fish harpoons, chipped stone projectile points, drills, knives, and scrapers. Wooden implements, especially mortars and pestles were also common, but rarely survive archaeologically. Many forms of baskets, aprons, cradles, and mats are also described. The tule balsa was the typical watercraft.

The economic base was developed to such an extent among the Plains Miwok that considerable time could be devoted to ceremonial activities and artistic expression. Ornamental objects were very elaborate. They in-

cluded incised bird bone tubes, feathered head dresses, robes, and elk tibia hair pins. Highly prized shell ornaments fashioned from abalone shell were also significant.

In Bennyhoff's extensive reconstruction of Plains Miwok geography, he notes that early accounts place the tribelet center of Junizumne (Unsumnes) at or near Walnut Grove, on the east bank of the Sacramento River. The population of this village is not precisely known, but mission records indicate a total of 3,000 for three tribelets including the largest—Junizumne. No known archaeological deposit corresponds to this location. It may have been destroyed by early town and levee construction or may exist at Sac-75, a short distance north. CA-Sac-329, recorded within the current project area, is also a possible candidate.

Extensive overviews of Plains Miwok culture have been prepared by Bennyhoff (1977) and Levy (1978). The serious reader is referred to them. Recent work by Siciliano-Kutchins has documented Miwok land use patterns in the north Delta region (1980) through interviews with surviving native families.

Historical Background

Historical use of the Delta region in the vicinity of Hood has centered around reclamation, agriculture, and recreation. During the period from 1860 to 1900, massive reclamation efforts were begun in the area. Chinese laborers, laid off from railroad construction, provided a ready work force to drain the wetlands, build levees and convert the peat soils to farmlands. The key to this conversion was the passage of the Swamp and Overflow Land Act of 1850. This transferred land ownership from the federal government to the State and set the stage for private speculation and development.

Beginning in the late 1800s, dredging machinery was vastly improved to undertake the massive job of reclamation. Clam shell dredgers, hydraulic machines, and steam dredges were brought in to scoop out river sediments and build permanent levees. This had been done earlier by hand labor using pilings, brush mattresses, drift logs and even derelict sailing ships filled with rock. These early levees presented many problems. Not only was the land very low lying to begin with (many acres at or below seal level), but the peat soils were subject to compaction, oxidation, and wind erosion once removed from their aqueous setting. Early levees needed constant repair. The yellow, loamy clay formed on natural levees was used whenever possible, but peat soils were generally poor material for levee construction.

Even before levee building was entirely successful, farming began in the Delta with great excitement. Asparagus, potatoes, beans, and grains were grown in large quantities before 1900 (Maniery 1989:24). Onions, celery, and lettuce were also grown for expanding markets in San Francisco, Sacramento, and Stockton. With agriculture came the development of landings from which to transport machinery, seed, and produce. This resulted in a steady increase in historic Delta population. Many farmers were Chinese and later Japanese immigrants. They became increasingly prominent, with George Shima, a Japanese farmer, finally becoming known as the "Potato King" of the Sacramento-San Joaquin Delta (Maniery 1989:23).

Thorough summaries of Delta history have been prepared by Patterson et al. (1978) and Waugh (1986). A recent historical resources overview has also been done by Owens (1991).

Pre-Field Investigations

A complete records search for the overall North Delta Program study area was performed by the North Central Information Center of the California Archaeological Inventory. All official site maps and archives were consulted as were the standard published references—National Register of Historic Places Listed Properties and Determined Eligible Properties (1990 and updates), California Inventory of Historic Resources (1976), California Points of Historical Interest (1987 and updates), California Historical Landmarks (1990 and updates), Gold Districts of California (1979), California Gold Camps (1975), California Place Names (1969) and Historic Spots in California (1966) (1990), Survey of Surveys (1989), CALTRANS Local Bridge Survey (1989), Shipwreck Data Inventory by the State Lands Commission (1989), and Early California Northern Edition (1974).

The records search revealed no recorded historic sites or shipwrecks on or adjacent to the subject property, although the Delta region is rich in such sites.

Field Surveys

The subject property was inspected by Glenn J. Farris, Associate State Archaeologist, on February 23, 1995.

Previous Survey

The parcel of land under consideration has not been subjected to a previous archaeological Class II (intensive field) survey. However, recent and extensive archival research accomplished under the overall North Delta Class I survey (Schulz and Farris 1994:258) shows that there was the residence of J. Brooke (GLO Plat Map 1859), along the bank of the Sacramento River about midway on the property line. It is very probable that the site of this house is all or partly under the current levee and levee road, which follows the east side of the river in this area. This same literature survey turned up no reports of prehistoric sites, although the land lies between the rich archaeological area known as South Stone Lake to the east and the Sacramento River. Also, immediately to the south of the property is a prehistoric site designated CA-Sac-328. This site produced midden soil of about 1 meter in depth that contained obsidian projectile points, shell ornaments, and a large number of human burials (Schulz and Farris 1994:236).

Ethnographic Background

The area adjacent to Hood was occupied by the ethnographic Plains Miwok people and was near the village known as Chupumne. This village is believed to coincide with the unexcavated archaeological site CA-Sac-62 in the town of Hood (Bennyhoff 1977:67). For additional background on the project area refer to the discussion of the South Stone Lake area in the Class I survey prepared by Schulz and Farris (1994:63-66).

Burial Site Reported On River Valley Vineyards Property

John Strohmaier of Johas & Associates, Inc., was interviewed on February 23, 1995, on the site of River Valley Vineyards. According to Strohmaier, in the fall of 1988 following the acquisition of this property, his firm was engaged in removing the existing pear orchard before replanting the land in grapevines. While digging out an old pipeline in the field, the workmen unearthed a human skull. The Sacramento County Sheriff's Department and the Coroner were notified. They determined that the skull was not recent and a Native American consultant, Mr. William Franklin, Northern Sierra Miwok from Ione, was brought in as the most likely descendant. Mr. Franklin supervised the further excavations, but no archaeologist was involved. The area surrounding the skeletal finds was dug out in each direction until no further human remains were found.

A hole was dug using a backhoe (about 4 to 5 feet deep and 24 inches wide) along the north edge of the field, adjacent to the berry patch lining the levee. The human remains and "several pieces of stone chips" were placed in the hole, about 5 feet deep, and covered over. Mr. Franklin insisted that he did not want the burial spot marked in any way. [Although Mr. Franklin is still alive, he is 83 years old and in poor health (Dwight Dutschke, personal communication 1995). Considering the difficulty that Strohmaier had in remembering where the burials were found and then reinterred, it was deemed by the author unreasonable to attempt to interview Mr. Franklin.]

Following the removal of the burials, in the course of preparing the vineyard land, the property was laser leveled to create optimal drainage. According to Strohmaier, when the land was first acquired by Johas & Associates in 1988, it was quite uneven. The leveling operation spread the soil from the high points to fill the low spots.

Barn Located On Vineyard Land

In the southwest corner of the River Valley Vineyard property is a large barn. The siding of the structure is composed of vertical 1x12 wooden boards with a corrugated metal roof and a light, interior truss framing. The build-

ing is said to be about 80 years old (Jim Martin, personal communication, 1994), however, no research has been undertaken on the structure.

Management Recommendations

Since the current project is simply acquisition of the land with no immediate plans to change the use pattern (i.e., maintenance of the vineyard), a full Category II survey was not undertaken. Once the land is acquired by the State (DWR), it will be the responsibility of that agency to safeguard the cultural resources even though the land may be subcontracted to another party for management (i.e., vineyard) purposes. When and if the property becomes subject to development by DWR involving any further ground-disturbing activity on the parcel, a Class II archival and archaeological survey should be conducted to accomplish the following:

1. Attempt to determine the exact location of the original burial site and complete a site record, even if it is drastically disturbed. This information is important in the ongoing effort to fill in the scanty knowledge of the prehistoric habitation pattern.

2. Do an intensive, on-foot archaeological survey of the property to determine if any other historic or prehistoric sites exist.

3. Determine the reburial site so as not to create confusion should these bones be found in future excavation. It may be possible to use ground penetrating radar in the area to detect this comparatively recent deep ground disturbance. Such a determination will aid in avoiding an accidental disturbance of the reburied bones. If the site cannot be determined, it will be necessary to mark off the extensive, approximate zone remembered by Mr. Strohmaier as culturally sensitive ground.

4. Examine the former residence of J. Brooke (location identified in DPR files) to determine if any remains are left to be found.

5. Determine the background history of the barn said to be in excess of 50 years old. If this is the case, a Historic Structures Report (DPR 523) will need to be prepared on the building.

Environmental Impacts

There would not be any project impacts, nor would this project have any adverse environmental effects. Negotiations for acquisition of the subject property will be with willing sellers only. Acquisition of this property would not result in any change in land use. Current land use would continue under standard State leasing procedures. The acquisition is reversible; the land can be sold in the future if the State determines it to be no longer of potential value to the State. If and when a determination is made as to proposed changes in land use, full environmental documentation will be prepared in compliance with all local, State, and federal laws and regulations.

Table 2 documents the summary of environmental impacts.

Table 2. Environmental Checklist			
Environmental Impact	**Yes**	**Maybe**	**No**
1. Earth. Will the proposal result in:			
a. Unstable earth conditions or in changes in geologic substructure?			✓
b. Disruptions, displacements, compaction,or over covering of the soil?			✓
c. Changes in topography or ground surface relief features?			✓
d. Destruction, covering, or modification of any unique geologic or physical feature?			✓
e. Any increase in wind or water erosion of soil, either on or off the site?			✓
f. Changes in deposition or erosion of beach sands, or changes in siltation, deposition or erosion that may modify the channel of a river or stream or the bed of the ocean or any bay, inlet, or lake?			✓
g. Exposure of people or property to geologic hazards, such as earthquakes, landslides, mudslides, ground failure, or similar hazards?			✓
2. Air. Will the proposal result in:			
a. Substantial air emissions or deterioration of ambient air quality?			✓
b. The creation of objectionable odors?			✓
c. Alteration of air movement, moisture, or temperature, or any change in climate, either locally or regionally?			✓
3. Water. Will the proposal result in:			
a. Changes in currents, or the course or direction of water movements, in either marine or fresh water?			✓
b. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff?			✓
c. Alterations to the course or flow of flood waters?			✓
d. Change in the amount of surface water in any water body?			✓
e. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen, or turbidity?			✓
f. Alteration of the direction or flow rate of ground water?			✓
g. Change in the quantity of ground waters, either through direct additions or withdrawal, or through interception of an aquifer by cuts or excavations?			✓
h.Substantial reduction in the amount of water otherwise available for public water supplies?			✓
i. Exposure of people or property to water-related hazards such as flooding or tidal waves?			✓
4. Plant Life. Will the proposal result in:			
a. Changes in the diversity of species, or number of any species of plants (including trees, shrubs, grass, crops, and aquatic plants)?			✓
b. Reduction of the number of any unique, rare or endangered species of plants?			✓
c. Introduction of new species of plants into an area, or barrier to the normal replenishment of existing species?			✓
d. Reduction in acreage of any agricultural crop?			✓
5. Animal Life. Will the proposal result in:			
a. Change in the diversity of species, or numbers of any animal species (birds, land animals, including reptiles, fish and shellfish, benthic organisms or insects)?			✓
b. Reduction in the number of any unique, rare, or endangered species of animals?			✓
c. Introduction of new species of animals into an area, a barrier to the migration or movement of animals?			✓
d. Deterioration of existing fish or wildlife habitat?			✓
6. Noise. Will the proposal result in:			
a. Increases in existing noise levels?			✓
b. Exposure of people to severe noise levels?			✓

Table 2 (continued). Environmental Checklist			
Environmental Impact	Yes	Maybe	No
7. Light and Glare. Will new light and glare occur?			✓
8. Land Use. Will the proposal result in substantial alteration of the present or planned land use of an area?			✓
9. Natural Resources. Will the proposal result in:			
a. Increase in rate of use of any natural resources?			✓
b. Substantial depletion of any nonrenewable resource?			✓
10. Risk of Upset. Will the proposal involve:			
a. Risk of explosion or release of hazardous substance (including but not limited to oil, pesticides, chemicals, or radiation) in the event of an accident or upset?			✓
b. Possible interference with an emergency response plan or an emergency evacuation plan?			✓
11. Population. Will the proposal alter the location, distribution, density, or growth rate of the human population of an area?			✓
12. Housing. Will the proposal affect existing housing or create a demand for additional housing?			✓
13. Transportation/Circulation. Will the proposal:			
a. generate substantial additional vehicular movement?			✓
b. affect existing parking facilities or demand for new parking?			✓
c. Substantially impact existing transportation systems?			✓
d. Alter present patterns of circulation or movement of people and/or goods?			✓
e. Alter waterborne, rail, or air traffic?			✓
f. Increase traffic hazards to motor vehicles, cyclists, or pedestrians?			✓
14. Public Services. Will the proposal affect or result in a need for new or altered governmental services in these areas:			
a.Fire protection?			✓
b.Police protection?			✓
c.Schools?			✓
d.Parks or other recreational facilities?			✓
e.Maintenance of public facilities, including roads?			✓
f.Other governmental services?			✓
15. Energy. Will the proposal result in:			✓
a.Use of substantial amounts of fuel or energy?			✓
b.Substantial increase in demand on existing sources of energy, or require development of new energy sources?			✓
16. Utilities. Will the proposal result in a need for new systems or substantial alterations to the following utilities:			
a.Power or natural gas?			✓
b.Communications systems?			✓
c.Water?			✓
d. Sewer or septic tanks?			✓
e. Storm water damage?			✓
f. Solid waste and disposal?			✓
17. Human Health. Will the proposal result in:			
a.Creation of any health hazard or potential health hazard (excluding mental health)?			✓
b.Exposure of people to potential health hazards?			✓
18. Aesthetics. Will the proposal result in obstruction of any scenic vista or view open to the public, or will the proposal result in the creation of an aesthetically offensive site open to public view?			✓

Table 2 (continued). Environmental Checklist			
Environmental Impact	Yes	Maybe	No
19. Recreation. Will the proposal affect the quality or quantity of existing recreational opportunities?			✓
20. Cultural Resources. Will the proposal:			
a. result in alteration or destruction of a prehistoric or historic archaeological site?			✓
b. result in adverse physical or aesthetic effects to a prehistoric or historic building, structure, or object?			✓
c. have the potential to cause a physical change that would affect unique ethnic cultural values?			✓
d. restrict existing religious or sacred uses within the potential impact area?			✓
21. Mandatory Findings of Significance.			
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number of or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?			✓
b. Does the project have the potential to achieve short-term—to the disadvantage of long-term environmental goals? (A short-term environmental impact is one that occurs in a relatively brief, definitive period, whereas long-term impacts will endure well into the future.)			✓
c. Does the project have impacts that are individually limited but cumulatively considerable? (A project may impact two or more separate resources where the impact on each is relatively small but where the effect of the total impacts on the environment is significant.)			✓
d. Does the project have environmental effects that will cause substantial adverse effects on human beings either directly or indirectly?			✓

CONCLUSIONS AND RECOMMENDATIONS

This project will have no significant adverse effect on the environment.

It is recommended that a Negative Declaration be prepared in accordance with the California Environmental Quality Act and State Guidelines.

Prepared by:

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James Martin 3/3/95

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Recommend Approval:

Karl P. Winkler

Karl P. Winkler, Chief
Delta Planning Branch

Date 3/9/95

Consultation and Coordination

This initial study was coordinated with key State and federal agencies

- The cultural resources analysis, including the field surveys and records search, was performed by the State Department of Parks and Recreation archaeologists, Peter Schultz, Glenn Farris, and John Foster, coordinated with the State Historic Preservation Office and Sacramento County archives staffs. The field work for this initial study was performed by Glenn Farris.
- Field surveys and analyses for biological resources were performed by Department of Water Resources biologist, Laurie Archambault.
- Preliminary analysis of jurisdictional wetlands status was performed by Herbert Cook, U.S. Soil Conservation Service.

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